II. CLAIM AMENDMENTS

1. (Currently Amended) A method for synchronizing a receiver ~~(MS)~~ to a code modulated signal transmitted by satellites ~~(SV1—SV4)~~, in which method information is transmitted by modulating the code modulated signal ~~in the~~ during transmission ~~step~~ and demodulation is performed ~~in the~~during reception ~~step~~ for clarifying the transmitted information, and from which satellites at least partly the same information is transmitted essentially simultaneously, the method comprising:

receiving signals transmitted by two or more satellites;~~,~~

determining transit time differences of the received signals for mutual synchronization of the signals transmitted from different satellites;

forming an analysis signal by using at least a part of at least two synchronized signals received from different satellites, wherein the analysis ~~sample string~~signal is formed by combining only those parts of the at least two synchronized signals that are common to each other~~, and~~;

wherein -the ~~the~~ parts of the at least two synchronized signals that are common to each other are determined by searching the received signals from the two or more satellites using a phase-locked loop to identify edges of bits of the information included in the received signals and using only information included in the received signals from the two or more satellites.

2. (Original) A method according to Claim 1, **characterized** in that reference information is formed, and said reference information is compared to said analysis signal for finding at least one said signal, which contains the same information.

3. (Original) A method according to Claim 2, **characterized** in that correlation is used in the comparison.

4. (Previously Presented) A method according to claim 1, in which the information to be transmitted is sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least an initial synchronization part (preamble, P), **characterized** in that the preamble (P) is searched from the analysis signal in the method.

5. (Previously Presented) A method according to claim 1, in which the information to be transmitted is sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least time data (TOW), **characterized** in that said time information (TOW) is searched from the analysis signal in the method.

6. (Previously Presented) A method according to claim 1, in which the information to be transmitted is sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least identification information (ID), **characterized** in that said identification information (ID) is searched from the analysis signal in the method.

7. (Previously Presented) A method according to claim 1, in which the information to be transmitted includes at least ephemeris data, **characterized** in that said ephemeris data is used in the method for determining the location of the receiver.

8. (Previously Presented) A method according to claim 1, **characterized** in that the information to be modulated in the method is binary information, and thus the information to be modulated consists of a number of information bits, each of which has either the first or the second binary value.

9. (Original) A method according to Claim 8, **characterized** in that the code used in the modulation is formed of a set of chips, on the basis of the code either a first or a second value is selected for each chip, whereupon a signal modulated with said set of chips forms an epoch, that at least one of said epochs is used in the transmission of each information bit, and that the modulation is carried out so that if the value of the information bit to be modulated is the first binary value, values selected for the chips of said epoch are used in the modulation, or if the value of the information bit is the second binary value, the value opposite to the value selected for each chip of the epoch is used in the modulation.

10. (Currently Amended) A receiver ~~(MS)~~, which comprises at least synchronization means ~~(3, 4, 7, 16)~~ for synchronizing the receiver ~~(MS)~~ to the code modulated signal transmitted by the satellites ~~(SV1—SV4)~~, and demodulation means ~~(1, 2a—2d, 5)~~ for clarifying the transmitted information, and from which satellites at least partly the same information has been transmitted essentially simultaneously, wherein the receiver ~~(MS)~~ also comprises means ~~(1, 2a—2d)~~ for receiving the signal transmitted by two or more satellites ~~(SV1—SV4)~~, and that said synchronization means comprise at least means ~~(7, 10, 11)~~ for determining the transit time differences of the received signals, means ~~(3)~~ for synchronizing the received signals of different satellites ~~(SV1—SV4)~~ for mutual synchronization of the signals on the basis of said transit time differences, and means ~~(3, 4)~~ for forming an analysis signal by using at least part of at least two synchronized signals received from different satellites, ~~(SV1—SV4)~~the at least part of

the at least two synchronized signals being those parts that are common to each other, the parts that are common to each other being determined using only information in the received signals and searching the received signals using a phase-locked loop to identify edges of bits of the information and determine those parts that are common to each other.

11. (Original) A receiver (MS) according to Claim 10, **characterized** in that it also comprises at least means (16) for forming at least one piece of reference information, and comparison means (7, 8) for comparing said reference information to said analysis signal for finding at least one said signal, which contains the same information.

12. (Original) A receiver (MS) according to Claim 10, **characterized** in that the comparison means comprise means (7) for performing correlation between said reference information and said analysis signal.

13. (Previously Presented) A receiver (MS) according to claim 10, in which the information to be transmitted has been sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least an initial synchronization part (preamble, P), **characterized** in that said comparison means comprise means (3, 4) for searching said preamble (P) from the analysis signal.

14. (Previously Presented) A receiver (MS) according to claim 10, in which the information to be transmitted has been sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least time data (TOW), **characterized** in that said comparison means comprise means (3, 4) for searching said time data (TOW) from the analysis signal.

15. (Previously Presented) A receiver (MS) according to claim 10, in which the information to be transmitted has been sent in one or more data frames (SF1—SF5), and at least one data frame (SF1—SF5) includes at least identification information (ID), **characterized** in that said comparison means comprise means (3, 4) for searching said identification information (ID) from the analysis signal.

16. (Previously Presented) A receiver (MS) according to claim 10, in which the information to be transmitted includes at least ephemeris data, **characterized** in that the receiver also comprises means (3, 4, 7, 8) for using said ephemeris data for determining the location of the receiver (MS).

17. (Previously Presented) A receiver (MS) according to claim 10, **characterized** in that the information to be modulated is binary information, and thus the information to be modulated consists of a number of information bits, each of which has either the first or the second binary value.

18. (Original) A receiver (MS) according to Claim 17, **characterized** in that the code used in the modulation has been formed of a set of chips, on the basis of the code either a first or a second value has been selected for each chip, whereupon an epoch has been formed of a signal modulated with said set of chips, that at least one of said epochs has been used in the transmission of each information bit, and that the modulation has been carried out so that if the value of the information bit to be modulated is the first binary value, values selected for the chips of said epoch have been used in the modulation, or if the value of the information bit is the second binary value, the value opposite to the value selected for each chip of the epoch has been used in the modulation.

19. (Currently Amended) A positioning system, which comprises at least:

two or more satellites ~~(SV1—SV4)~~, which comprise means for transmitting a code modulated signal, and means for transmitting information by modulating said code modulated signal, and

a receiver ~~(MS)~~, which comprises synchronization means ~~(3, 4, 7, 16)~~ for synchronizing the receiver ~~(MS)~~ to the code modulated signal transmitted by the satellites ~~(SV1—SV4)~~, and demodulation means ~~(1, 2a—2d, 5)~~ for clarifying the transmitted information,

and from which satellites at least partly the same information has been arranged to be transmitted essentially simultaneously, **characterized** in that the receiver ~~(MS)~~ also comprises means ~~(1, 2a—2d)~~ for receiving the signal transmitted by two or more satellites ~~(SV1—SV4)~~, means ~~(2a—2d)~~ for determining the transit time differences of the received signals, and that said synchronization means comprise at least means ~~(7, 10, 11)~~ for determining the transit time differences of the received signals, means ~~(3)~~ for mutual synchronization of the received signals of different satellites ~~(SV1—SV4)~~ on the basis of said transit time differences, and means ~~(3, 4)~~ for forming an analysis signal by using parts of the at least two synchronized signals received from different satellites ~~(SV1—SV4)~~ that are common to each other, wherein the parts of the at least two synchronized signals that are common to each other are determined ~~using~~by searching only information from the at least two synchronized signals using a phase-locked loop to identify edges of bits of the information.

20. (Previously Presented) The method of claim 1 further comprising a cross-correlation of the received signal to a known data sequence out to correct transmit time differences without using any auxiliary data from a network.

21. (Previously Presented) The method of claim 1 further comprising not using any information stored in the receiver to determine the parts of the received signals that are common to each other.

22. (Previously Presented) The method of claim 1 wherein the parts of the at least two synchronized signals that are common to each other contain common time data.